

Climate change and vanishing islands threaten brown pelicans

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Sliding off the side of her small boat, seabird biologist Bonnie Slaton wades through waist-high water, brown pelicans soaring overhead, until she reaches Raccoon Island.

During seabird breeding season, the place is a symphony of noise and motion—one of the few remaining refuges for the iconic pelicans.

The crescent-shaped island is a sliver of land separating Louisiana from the Gulf of Mexico—a speed bump against storms that roll in from the sea. An hour's boat ride, the barrier island's remoteness allows birds to nest on mangroves and sandy beaches a safe distance from most predators.

A dozen years ago, there were 15 low-lying islands with nesting colonies of Louisiana's state bird. But today, only about six islands in southeastern Louisiana harbor brown pelican nests—the rest have disappeared underwater.

"Louisiana is rapidly losing land," said Slaton, a researcher at the University of Louisiana at Lafayette. "Subsidence and sea level rise are a double whammy."

The vanishing islands threaten one of last century's most celebrated conservation [success stories](#)—the decades-long effort to bring the pelicans back from the edge of extinction.

On land, brown pelicans are clumsy-looking birds, their huge beaks and wings lending them what Slaton calls a "goofy" air. But soaring low over the ocean, pelicans are majestic.

The same forces swallowing up coastal islands are also causing southern Louisiana's saltwater marshes to disappear faster than anywhere else in the country. Scientists estimate Louisiana loses one football field worth of ground every 60 to 90 minutes.

"We're on the front lines of climate change. It's all happening here," said University of Louisiana at Lafayette ecologist Jimmy Nelson.

As Slaton and two other biologists walk Raccoon Island's shoreline, the birds alight in a swirling, swooping cacophony that announces the intruders. The calls of a thousand laughing gulls are loud enough to drown out human thought.

Slaton changes out batteries and memory cards for 10 motion-activated trail cameras set up to observe pelican nests in varied habitats. Some circular nests of smooth cordgrass are built atop mangrove stands, others on grassy hillocks.

Camera data has shown that in recent years the main threat is flooding—which can wash away entire nests, as happened in April 2021.

Passing one ground nest, Slaton bends to watch as two tiny gray and pink pelican chicks squirm, eyes still closed. Within a week, chicks are covered in downy white and gray feathers.

Watching a seabird colony reveals at once the promise and fragility of new life. Then suddenly the biologists are wiping white dribbles from

their foreheads.

The copious bird droppings act as natural fertilizer that helps shrubs and grass grow from the island's sand and stones. Their roots slow erosion.

When Mike Carloss was a child in Louisiana in the 1960s, he never saw brown pelicans.

Like bald eagles, their populations had been decimated by widespread DDT pesticide use that thinned eggshells and prevented healthy chicks from hatching.

The beloved pelicans were completely gone from Louisiana, their likeness only on the state flag. But a long-running effort to save them led to an inspiring comeback story.

After the U.S. [DDT ban](#) in 1972, biologists brought pelican chicks from Florida to repopulate empty islands across the Gulf of Mexico. More than 1,200 [were released](#) in southeastern Louisiana over 13 years.

One location was Raccoon Island, where Carloss, then a teenage field assistant at the Louisiana Department of Wildlife and Fisheries, tossed fish from the beach to feed chicks.

"I babysat these young pelicans out on a remote island," he recalled. "Somebody had to hand-feed them essentially."

As a state wildlife biologist for more than two decades, Carloss later oversaw restoration projects on the island. But now he fears that if islands keep disappearing, "we would be back to the days of the sixties, and not because of poisoning."

Protecting what's left depends on continuous human intervention.

Today one side of Raccoon Island is ringed by granite breakwaters that divert tides.

Erosion is a natural process, and over the course of thousands of years, most barrier islands rise and fall. Unlike volcanic islands, there is no bedrock here, only layers of silt washed down the Mississippi Delta.

But rising seas and increased storm frequency and intensity with climate change accelerate the pace. And the islands have been starved of new Mississippi sediment because the river's course has been controlled since the 1940s by levees to prevent flooding and aid shipping.

Every few years, government agencies work to restore and maintain some barrier islands. The money comes from a [legal settlement](#) after the 2010 Deepwater Horizon oil spill. But it won't last forever—and many sinking islands aren't restored at all.

On another day, the biologists steer their aluminum boat past an unrestored island called Philo Brice. Mangroves grow on inundated land, and pelicans nest in the upper branches.

It's still a decent breeding habitat, as long as the soil holds and plants remain above water. "In five or 10 years, it may or may not be here. It's that rapid," said Slaton.

When the biologist Juita Martinez conducted research in coastal Louisiana between 2018 and 2021, she found the number of pelicans on

another unrestored and flooded island, Felicity, dropped from 500 to about 20.

Brown pelicans can live more than 20 years, so the impact of breeding troubles takes time to become clear.

For now, pelicans are still common in coastal Louisiana, and their likenesses are everywhere—license plates, restaurant signs and university seals.

The brown pelican "is a symbol of Louisiana, just like the eagle is a symbol of America," said Rue McNeil, executive director of the Northlake Nature Center in Mandeville, Louisiana.

But the future is uncertain.

Flying in a small plane low enough to see the heads of pelicans poking from mangroves, the difference between Raccoon Island and unrestored Philo Brice is stark: One is solid land, the other like soft bread dissolving in a soup of blue.

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